

A1 corrosion resistance) may also provide advantageous performance. High strength, high gall-resistance stainless steels such as that sold under trademark ULTIMET by Haynes International, Inc. of Kokomo, IN may also be used. A preferred material for the outer jacket is aluminum 1100 (99.0% Al minimum), a substantially pure aluminum. Various aluminum alloys may also be utilized as can other ductile metals. --

Please amend the paragraph spanning pages 3 and 4 to read as follows:

A2 -- In an exemplary nominal three inch (7.62 cm) diameter seal (measured as a minimum diameter  $D_1$  of the longitudinal opening within the outer member 24 at the plane 502) the inner member may have a relaxed longitudinal length  $L_2$  of about 0.16 inches (0.41 cm) and a thickness of about 0.024 inches (0.061 cm). A broader thickness range is 0.015-0.035 inches (0.038-0.089 cm). The ridges may have a longitudinal extent  $L_3$  of about 0.005 inch (0.013 cm). A thickness of the outer member (away from the ridges) may be about 0.01 inches (0.025 cm), a thickness well under half the exemplary thickness of the inner member. A broader thickness range is 0.005-0.020 inches (0.0123-0.051 cm). The radial extent or span  $S_1$  of the outer member may be about 0.10 inches (0.25 cm). A radial span  $S_0$  of the exemplary seal is the radial span of the inner member plus the thickness of the outer member at the plane 502. The ridge extremities 42A and 42B form a pair of flat annuli with a radial span  $S_3$  of about 0.006 inches (0.015 cm). The longitudinal span  $L_1$  of the outer member at the line 503 between the extremities 42A and 42B may be an exemplary 0.19 inch (0.48 cm). When compressed between opposed flat annular surfaces 102A and 102B of flanges 100A and 100B, the ridges are both plastically and elastically deformed to form a seal and the inner member is plastically and elastically longitudinally compressed (e.g., by about 0.044 inch (0.11 cm) so that compressed overall and inner member lengths  $L_1'$  and  $L_2'$  are about 0.16 inch (0.41 cm) and 0.14 inch (0.36 cm) to bias the ridges into engagement with the flanges. An exemplary compressive engagement force on the seal is 400-1000 lbs/inch (7-17.5 N/m) of contact length (seal circumference at the ridges). --

In the Claims:

Please add new claims 14-19 as follows:

Sb  
A2  
C1  
-- 14. (New) The vacuum seal of claim 1 consisting essentially of said outer metallic annular member, said inner metallic annular member, and at least one plating layer.